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Trellis Intellectual Property Law Group, PC 1900 EMBARCADERO ROAD SUITE 109 PALO ALTO, CA 94303			LOUIE, OSCAR A	
			ART UNIT	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

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megan@trellislaw.com  
jack@trellislaw.com  
docket@trellislaw.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/733,666	<b>Applicant(s)</b> NAFTALI, AMIR	
	<b>Examiner</b> OSCAR A. LOUIE	<b>Art Unit</b> 2436	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 31 August 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,4-29,31-43 and 45-56 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4-29,31-43 and 45-56 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This final action is in response to the amendment filed on 08/31/2009. Claims 1, 4-29, 31-43, & 45-56 are pending and have been considered as follows.

#### ***Examiner Note***

In light of the applicant's amendments and remarks, the examiner hereby withdraws his previous Claim Objections.

#### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 20, 28, 31, 33, 43, 45, 50, & 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strom (US-20020042820-A1) in view of Parhami ("Introduction to Parallel Processing - Algorithms and Architectures") in view of L. Blunk & J. Vollbrecht (RFC 2284).

Claim 20:

Strom discloses an apparatus configured to providing authentication in a connection establishment process of a transmission control protocol comprising,

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- “the transmission control protocol includes a Link Establishment phase and an Authentication phase” and
- “initiation of the Link Establishment phase is specified to occur apart from the Authentication phase” and
- “the method comprising the following acts occurring during the Link Establishment phase:”
  - o (i.e. “...According to the present invention, which is set out in Table 1 b, the request for server is sent before or parallel with the authentication procedure. The PPP, IP, PAP and CHAP protocols are modified such that the IP-address is sent back to the PC at the same time or before the terminal sends the authentication data in the form of password and user name, as shown in Table 1below...”) [page 2 para 16 & Table 1a];

but, Strom does not explicitly disclose,

- “a first processor attempts to establish a communication over a network,” although Parhami does suggest commonly used parallel processing, as recited below;
- “an authentication session requestor configured to creating an authentication session request in a standard response to a TCP session request to establish a TCP connection,” although L. Blunk & J. Vollbrecht do suggest a request packet and authentication success or failure, as recited below;
- “the authentication session request is used to start an authentication session,” although L. Blunk & J. Vollbrecht do suggest a request packet and a response and authentication success or failure, as recited below;

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- “a transmitter configured to sending the first portion of transmission control protocol data to the first processor during the connection establishment process,” although L. Blunk & J. Vollbrecht do suggest a request packet that contains a type field which indicates what is being requested, as recited below;

however, Parhami does disclose,

- “...parallel processing is concerned with architectural and algorithmic methods for enhancing the performance or other attributes (e.g. cost-effectiveness, reliability) of digital computers through various forms of concurrency...” [page 1];

whereas, L. Blunk & J. Vollbrecht do disclose,

- “...The Request packet is sent by the authenticator to the peer. Each Request has a type field which serves to indicate what is being requested...Responses MUST only be sent in reply to a received Request...” [page 5];
- “...Success and Failure...Success packet is sent by the authenticator to the peer to acknowledge successful authentication...Code field set to 3 (Success)...If the authenticator cannot authenticate the peer...Code field set to 4 (Failure)...” [page 6];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant’s invention to include, “a first processor attempts to establish a communication over a network, the method executing in a second processor” and “an authentication session requestor configured to creating an authentication session request in a standard response to a TCP session request to establish a TCP connection” and “the authentication session request is used to start an authentication session” and “a transmitter configured to sending the first portion of transmission

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control protocol data to the first processor during the connection establishment process,” in the invention as disclosed by Strom for the purposes of providing parallel processed TCP authentication.

Claim 28:

Strom, Parhami, Mullen et al., and L. Blunk & J. Vollbrecht disclose an apparatus configured to providing authentication in a connection establishment process of a transmission control protocol, as in Claim 20 above, their combination further comprising,

- “the authentication session includes an Extensible Authentication Protocol (EN) session”  
(i.e. “The PPP Extensible Authentication Protocol (EAP) is a general protocol for PPP authentication which supports multiple authentication mechanisms”) [page 3].

Claim 31:

Strom discloses a method of initiating an authentication session in a connection establishment process of a transmission control protocol comprising,

- “the transmission control protocol includes a Link Establishment phase and an Authentication phase” and
- “initiation of the Link Establishment phase is specified to occur apart from the Authentication phase” and
- “the method comprising the following acts occurring during the Link Establishment phase:”
  - o (i.e. “...According to the present invention, which is set out in Table 1 b, the request for server is sent before or parallel with the authentication procedure. The PPP, IP, PAP and CHAP protocols are modified such that the IP-address is sent

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back to the PC at the same time or before the terminal sends the authentication data in the form of password and user name, as shown in Table 1below...) [page 2 para 16 & Table 1a];

but, Strom does not explicitly disclose,

- “a first processor attempts to establish a communication with a second processor over a network, the method executing in the second processor,” although Parhami does suggest commonly used parallel processing, as recited below;
- “sending a request to establish a transmission session,” although L. Blunk & J. Vollbrecht do suggest a request packet, as recited below;
- “receiving an authentication session request during the connection establishment process,” although L. Blunk & J. Vollbrecht do suggest a request packet and a response and authentication success or failure, as recited below;
- “conducting authentication session communications during the connection establishment process,” although L. Blunk & J. Vollbrecht do suggest authentication success or failure, as recited below;

however, Parhami does disclose,

- “...parallel processing is concerned with architectural and algorithmic methods for enhancing the performance or other attributes (e.g. cost-effectiveness, reliability) of digital computers through various forms of concurrency...” [page 1];

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whereas, L. Blunk & J. Vollbrecht do disclose,

- "...The Request packet is sent by the authenticator to the peer. Each Request has a type field which serves to indicate what is being requested...Responses MUST only be sent in reply to a received Request..." [page 5];
- "...Success and Failure...Success packet is sent by the authenticator to the peer to acknowledge successful authentication...Code field set to 3 (Success)...If the authenticator cannot authenticate the peer...Code field set to 4 (Failure)..." [page 6];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "a first processor attempts to establish a communication with a second processor over a network, the method executing in the second processor" and "sending a request to establish a transmission session" and "receiving an authentication session request during the connection establishment process" and "conducting authentication session communications during the connection establishment process," in the invention as disclosed by Strom for the purposes of providing parallel processed TCP authentication.

Claim 33:

Strom, Parhami, Mullen et al., and L. Blunk & J. Vollbrecht disclose a method of initiating an authentication session in a connection establishment process of a transmission control protocol comprising,

- "the step of receiving an authentication session request includes a substep of receiving the authentication session request in a first portion of transmission control protocol data"



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(i.e. “Responses MUST only be sent in reply to a received Request and never retransmitted on a timer. The Identifier field of the Response MUST match that of the Request”) [page 5].

Claim 43:

Strom discloses a computer-readable storage medium including instructions configured to initiating an authentication session in a connection establishment process of a transmission control protocol comprising,

- “the transmission control protocol includes a Link Establishment phase and an Authentication phase” and
- “initiation of the Link Establishment phase is specified to occur apart from the Authentication phase” and
- “the method comprising the following acts occurring during the Link Establishment phase:”
  - o (i.e. “...According to the present invention, which is set out in Table 1 b, the request for server is sent before or parallel with the authentication procedure. The PPP, IP, PAP and CHAP protocols are modified such that the IP-address is sent back to the PC at the same time or before the terminal sends the authentication data in the form of password and user name, as shown in Table 1below...” [page 2 para 16 & Table 1a];

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but, Strom does not explicitly disclose,

- “a first processor attempts to establish a communication over a network, the method executing in a second processor,” although Parhami does suggest commonly used parallel processing, as recited below;
- “one or more instructions configured to sending a request to establish a transmission session,” although L. Blunk & J. Vollbrecht do suggest a request packet, as recited below;
- “one or more instructions configured to receiving an authentication session request during the connection establishment process,” although L. Blunk & J. Vollbrecht do suggest a request packet and a response and authentication success or failure, as recited below;
- “one or more instructions configured to conducting authentication session communications during the connection establishment process,” although L. Blunk & J. Vollbrecht do suggest authentication success or failure, as recited below;

however, Parhami does disclose,

- “...parallel processing is concerned with architectural and algorithmic methods for enhancing the performance or other attributes (e.g. cost-effectiveness, reliability) of digital computers through various forms of concurrency...” [page 1];

whereas, L. Blunk & J. Vollbrecht do disclose,

- “...The Request packet is sent by the authenticator to the peer. Each Request has a type field which serves to indicate what is being requested...Responses MUST only be sent in reply to a received Request...” [page 5];

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- "...Success and Failure...Success packet is sent by the authenticator to the peer to acknowledge successful authentication...Code field set to 3 (Success)...If the authenticator cannot authenticate the peer...Code field set to 4 (Failure)..." [page 6];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "a first processor attempts to establish a communication over a network, the method executing in a second processor" and "one or more instructions configured to sending a request to establish a transmission session" and "one or more instructions configured to receiving an authentication session request during the connection establishment process" and "one or more instructions configured to conducting authentication session communications during the connection establishment process," in the invention as disclosed by Strom for the purposes of providing parallel processed TCP authentication.

Claim 45:

Strom discloses a method of initiating an authentication session in a connection establishment process of a transmission control protocol comprising,

- "the transmission control protocol includes a Link Establishment phase and an Authentication phase" and
- "initiation of the Link Establishment phase is specified to occur apart from the Authentication phase" and
- "the method comprising the following acts occurring during the Link Establishment phase:"

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- (i.e. "...According to the present invention, which is set out in Table 1 b, the request for server is sent before or parallel with the authentication procedure. The PPP, IP, PAP and CHAP protocols are modified such that the IP-address is sent back to the PC at the same time or before the terminal sends the authentication data in the form of password and user name, as shown in Table 1below...") [page 2 para 16 & Table 1a];

but, Strom does not explicitly disclose,

- "a first processor attempts to establish a communication over a network, the method executing in a second processor," although Parhami does suggest commonly used parallel processing, as recited below;
- "requesting, with the first processor, to establish a transmission session," although L. Blunk & J. Vollbrecht do suggest a request packet, as recited below;
- "creating, with the second processor, an authentication session request in a first portion of transmission control protocol data," although L. Blunk & J. Vollbrecht do suggest a request packet and a response and authentication success or failure, as recited below;
- "the authentication session request indicates a request to start an authentication session," although L. Blunk & J. Vollbrecht do suggest authentication success or failure, as recited below;
- "sending the first portion of transmission control protocol data from the second processor to the first processor," although L. Blunk & J. Vollbrecht do suggest a request packet, as recited below;

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- “receiving an authentication session request during the connection establishment process,” although L. Blunk & J. Vollbrecht do suggest a request packet and a response and authentication success or failure, as recited below;
- “conducting authentication session communications during the connection establishment process,” although L. Blunk & J. Vollbrecht do suggest authentication success or failure, as recited below;

however, Parhami does disclose,

- “...parallel processing is concerned with architectural and algorithmic methods for enhancing the performance or other attributes (e.g. cost-effectiveness, reliability) of digital computers through various forms of concurrency...” [page 1];

whereas, L. Blunk & J. Vollbrecht do disclose,

- “...The Request packet is sent by the authenticator to the peer. Each Request has a type field which serves to indicate what is being requested...Responses MUST only be sent in reply to a received Request...” [page 5];
- “...Success and Failure...Success packet is sent by the authenticator to the peer to acknowledge successful authentication...Code field set to 3 (Success)...If the authenticator cannot authenticate the peer...Code field set to 4 (Failure)...” [page 6];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant’s invention to include, “a first processor attempts to establish a communication over a network, the method executing in a second processor” and “requesting, with the first processor, to establish a transmission session” and “creating, with the second processor, an authentication session request in a first portion of transmission control protocol data” and “the authentication

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session request indicates a request to start an authentication session” and “sending the first portion of transmission control protocol data from the second processor to the first processor” and “receiving an authentication session request during the connection establishment process” and “conducting authentication session communications during the connection establishment process,” in the invention as disclosed by Strom for the purposes of providing parallel processed TCP authentication.

Claim 50:

Strom, Parhami, Mullen et al., and L. Blunk & J. Vollbrecht disclose a method of initiating an authentication session in a connection establishment process of a transmission control protocol, as in Claim 45 above, their combination further comprising,

- “a first value is set in the first portion of transmission control protocol data for data sent from the second processor to the first processor” (i.e. “The Request packet is sent by the authenticator to the peer”) [page 5];
- “a second value is set in the first portion of transmission control protocol data for data from the first processor to the second processor” (i.e. “The peer MUST send a Response packet in reply to a Request packet”) [page 6].

Claim 56:

Strom discloses a computer-readable storage medium including instructions configured to initiating an authentication session in a connection establishment process of a transmission control protocol comprising,

- “the transmission control protocol includes a Link Establishment phase and an Authentication phase” and

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- “initiation of the Link Establishment phase is specified to occur apart from the Authentication phase” and
- “the method comprising the following acts occurring during the Link Establishment phase:”
  - o (i.e. “...According to the present invention, which is set out in Table 1 b, the request for server is sent before or parallel with the authentication procedure. The PPP, IP, PAP and CHAP protocols are modified such that the IP-address is sent back to the PC at the same time or before the terminal sends the authentication data in the form of password and user name, as shown in Table 1below...” [page 2 para 16 & Table 1a];

but, Strom does not explicitly disclose,

- “a first processor attempts to establish a communication over a network, the method executing in a second processor,” although Parhami does suggest commonly used parallel processing, as recited below;
- “one or more instructions for requesting, with the first processor, to establish a transmission session,” although L. Blunk & J. Vollbrecht do suggest a request packet, as recited below;
- “one or more instructions for creating, with the second processor, an authentication session item in a first portion of transmission control protocol data,” although L. Blunk & J. Vollbrecht do suggest a request packet and a response and authentication success or failure, as recited below;

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- “the authentication session item is used to start an authentication session,” although L. Blunk & J. Vollbrecht do suggest authentication success or failure, as recited below;
- “one or more instructions for sending the first portion of transmission control protocol data from the second processor to the first processor, during the connection establishment process,” although L. Blunk & J. Vollbrecht do suggest a request packet, as recited below;
- “one or more instructions for receiving the first portion of transmission control protocol data at the first processor,” although L. Blunk & J. Vollbrecht do suggest a request packet and a response and authentication success or failure, as recited below;
- “one or more instructions for conducting authentication session communications,” although L. Blunk & J. Vollbrecht do suggest authentication success or failure, as recited below;

however, Parhami does disclose,

- “...parallel processing is concerned with architectural and algorithmic methods for enhancing the performance or other attributes (e.g. cost-effectiveness, reliability) of digital computers through various forms of concurrency...” [page 1];

whereas, L. Blunk & J. Vollbrecht do disclose,

- “...The Request packet is sent by the authenticator to the peer. Each Request has a type field which serves to indicate what is being requested...Responses MUST only be sent in reply to a received Request...” [page 5];



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- "...Success and Failure...Success packet is sent by the authenticator to the peer to acknowledge successful authentication...Code field set to 3 (Success)...If the authenticator cannot authenticate the peer...Code field set to 4 (Failure)..." [page 6];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "a first processor attempts to establish a communication over a network, the method executing in a second processor" and "one or more instructions for requesting, with the first processor, to establish a transmission session" and "the authentication session item is used to start an authentication session" and "one or more instructions for sending the first portion of transmission control protocol data from the second processor to the first processor, during the connection establishment process" and "sending the first portion of transmission control protocol data from the second processor to the first processor" and "one or more instructions for receiving the first portion of transmission control protocol data at the first processor" and "one or more instructions for conducting authentication session communications," in the invention as disclosed by Strom for the purposes of providing parallel processed TCP authentication.

3. Claims 38-42, 51, & 53-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strom (US-20020042820-A1) in view of in view of Mullen et al. (US-20020147909-A1) in view of L. Blunk & J. Vollbrecht (RFC 2284).

Claim 38:

Strom discloses an apparatus configured to initiating an authentication session in a connection establishment process of a transmission control protocol comprising,

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- “the transmission control protocol includes a Link Establishment phase and an Authentication phase” and
- “initiation of the Link Establishment phase is specified to occur apart from the Authentication phase” and
- “the method comprising the following acts occurring during the Link Establishment phase:”
  - o (i.e. “...According to the present invention, which is set out in Table 1 b, the request for server is sent before or parallel with the authentication procedure. The PPP, IP, PAP and CHAP protocols are modified such that the IP-address is sent back to the PC at the same time or before the terminal sends the authentication data in the form of password and user name, as shown in Table 1below...” [page 2 para 16 & Table 1a];

but, Strom does not explicitly disclose,

- “one or more processors,” although Mullen et al. does suggest a processor, as recited below;
- “a network interface,” although Mullen et al. does suggest a computer connected to the Internet, as recited below;
- “a computer-readable storage medium on which is stored instructions for causing the one or more processors to perform a method,” although Mullen et al. does suggest memory, as recited below;

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- “sending a request to establish a transmission session,” although L. Blunk & J. Vollbrecht do suggest a request packet, as recited below;
- “receiving an authentication session request during the connection establishment process,” although L. Blunk & J. Vollbrecht do suggest a request packet and a response and authentication success or failure, as recited below;
- “conducting authentication session communications during the connection establishment process,” although L. Blunk & J. Vollbrecht do suggest authentication success or failure, as recited below;

however, Mullen et al. does disclose,

- “a processor” [page 3 paragraph 0037];
- “the computer (40) is connected to a wide area network (32), such as the Internet” [page 3 paragraph 0037];
- “memory” [page 3 paragraph 0037];

whereas, L. Blunk & J. Vollbrecht do disclose,

- “...The Request packet is sent by the authenticator to the peer. Each Request has a type field which serves to indicate what is being requested...Responses MUST only be sent in reply to a received Request...” [page 5];
- “...Success and Failure...Success packet is sent by the authenticator to the peer to acknowledge successful authentication...Code field set to 3 (Success)...If the authenticator cannot authenticate the peer...Code field set to 4 (Failure)...” [page 6];

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Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "one or more processors" and "a network interface" and "a computer-readable storage medium on which is stored instructions for causing the one or more processors to perform a method" and "sending a request to establish a transmission session" and "receiving an authentication session request during the connection establishment process" and "conducting authentication session communications during the connection establishment process," in the invention as disclosed by Strom for the purposes of providing parallel processed TCP authentication.

Claim 39:

Strom, Mullen et al., and L. Blunk & J. Vollbrecht disclose an apparatus configured to initiating an authentication session in a connection establishment process of a transmission control protocol, as in Claim 38 above, but the combination of Strom and L. Blunk & J. Vollbrecht do not explicitly disclose,

- "standard transmission control protocol (TCP) requests are issued," although Mullen et al. do suggest utilizing TCP, as recited below;

however, Mullen et al. do disclose,

- "PPP is a widely used data link protocol for transmitting Transfer Control Protocol/Internet Protocol (TCP/IP) packets over dial-up telephone connections" [page 1 paragraph 0002];

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Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "standard transmission control protocol (TCP) requests are issued," in the invention as disclosed by Strom and L. Blunk & J. Vollbrecht since EAP is an authentication means for PPP and PPP is widely used with TCP/IP, thus it would be reasonable to expect one of ordinary skill in the art to put these aspects in use together.

Claim 40:

Strom, Mullen et al., and L. Blunk & J. Vollbrecht disclose an apparatus configured to initiating an authentication session in a connection establishment process of a transmission control protocol, as in Claim 39 above, but the combination of Strom and Mullen et al. do not explicitly disclose,

- "a first portion of a standard transmission control protocol request includes a segment used in a three-way handshake," although L. Blunk & J. Vollbrecht do suggest request packets with an identifier value, as recited below;

however, L. Blunk & J. Vollbrecht do disclose,

- "Additional Request packets MUST be sent until a valid Response packet is received, or an optional retry counter expires. Retransmitted Requests MUST be sent with the same Identifier value in order to distinguish them from new Requests" [page 9];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "a first portion of a standard transmission control protocol request includes a segment used in a three-way handshake," in the invention as disclosed by Strom and Mullen et al. for the purposes of distinguishing each request as new or existing.

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Claim 41:

Strom, Mullen et al., and L. Blunk & J. Vollbrecht disclose an apparatus configured to initiating an authentication session in a connection establishment process of a transmission control protocol, as in Claim 39 above, but the combination of Strom and Mullen et al. do not explicitly disclose,

- “an authentication session request includes setting a value in a TCP segment header,” although L. Blunk & J. Vollbrecht do suggest request setting a code field, as recited below;

however, L. Blunk & J. Vollbrecht do disclose,

- “The authenticator MUST transmit an EAP packet with the Code field set to 1 (Request)” [page 5];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant’s invention to include, “an authentication session request includes setting a value in a TCP segment header,” in the invention as disclosed by Strom and Mullen et al. for the purposes of indicating a packet as a request.

Claim 42:

Strom, Mullen et al., and L. Blunk & J. Vollbrecht disclose an apparatus configured to initiating an authentication session in a connection establishment process of a transmission control protocol, as in Claim 39 above, but the combination of Strom and Mullen et al. do not explicitly disclose,

- “a first value is set for a first type of communication session,” although L. Blunk & J. Vollbrecht do suggest a request packet, as recited below;

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- “a second value is set for a second type of communication session,” although L. Blunk & J. Vollbrecht do suggest a response packet, as recited below;

however, L. Blunk & J. Vollbrecht do disclose,

- “The Request packet is sent by the authenticator to the peer” [page 5];
- “The peer MUST send a Response packet in reply to a Request packet” [page 6]

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant’s invention to include, “a first value is set for a first type of communication session” and “a second value is set for a second type of communication session,” in the invention as disclosed by Strom and Mullen et al. for the purposes of indicating a packet as a request or response.

Claim 51:

Strom discloses an apparatus configured to initiating an authentication session in a connection establishment process of a transmission control protocol comprising,

- “the transmission control protocol includes a Link Establishment phase and an Authentication phase” and
- “initiation of the Link Establishment phase is specified to occur apart from the Authentication phase” and
- “the method comprising the following acts occurring during the Link Establishment phase:”
  - o (i.e. “...According to the present invention, which is set out in Table 1 b, the request for server is sent before or parallel with the authentication procedure. The PPP, IP, PAP and CHAP protocols are modified such that the IP-address is sent

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back to the PC at the same time or before the terminal sends the authentication data in the form of password and user name, as shown in Table 1 below...) [page 2 para 16 & Table 1a];

but, Strom does not explicitly disclose,

- “a computer-readable storage medium on which is stored instructions configured to causing the one or more processors to perform a method,” although Mullen et al. does suggest memory, as recited below;
- “a client processor,” although L. Blunk & J. Vollbrecht do suggest an end being authenticated, as recited below;
- “a server processor,” although L. Blunk & J. Vollbrecht do suggest an end performing authentication, as recited below;
- “requesting, with the client processor, to establish a transmission session,” although L. Blunk & J. Vollbrecht do suggest a request packet, as recited below;
- “creating, with the server processor, an authentication session item in a first portion of transmission control protocol data,” although L. Blunk & J. Vollbrecht do suggest a response and authentication, as recited below;
- “the authentication session item is used to start an authentication session,” although L. Blunk & J. Vollbrecht do suggest authentication, as recited below;
- “sending the first portion of transmission control protocol data from the server processor to the client processor during the connection establishment process,” although L. Blunk & J. Vollbrecht do suggest a request packet, as recited below;



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- “receiving the first portion of transmission control protocol data at the client processor,” although L. Blunk & J. Vollbrecht do suggest a response packet, as recited below;
- “conducting authentication session communications,” although L. Blunk & J. Vollbrecht do suggest authentication, as recited below;

however, Mullen et al. does disclose,

- “memory” [page 3 paragraph 0037];

whereas, L. Blunk & J. Vollbrecht do disclose,

- “peer - The other end of the point-to-point link; the end which is being authenticated by the authenticator” [page 3];
- “authenticator - The end of the link requiring the authentication. The authenticator specifies the authentication protocol to be used in the Configure-Request during Link Establishment phase” [page 2];
- “The Request packet is sent by the authenticator to the peer. Each Request has a type field which serves to indicate what is being requested” [page 5];
- “The Request packet is sent by the authenticator to the peer. Each Request has a type field which serves to indicate what is being requested” [page 5];
- “The authenticator MUST transmit an EAP packet with the Code field set to 1 (Request)” [page 5];
- “The Request packet is sent by the authenticator to the peer. Each Request has a type field which serves to indicate what is being requested” [page 5];
- “Responses MUST only be sent in reply to a received Request and never retransmitted on a timer. The Identifier field of the Response MUST match that of the Request” [page 5];

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- “The Request packet is sent by the authenticator to the peer” [page 5];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant’s invention to include, “a computer-readable storage medium on which is stored instructions configured to causing the one or more processors to perform a method” and “a client processor” and “a server processor” and “requesting, with the client processor, to establish a transmission session” and “creating, with the server processor, an authentication session item in a first portion of transmission control protocol data” and “the authentication session item is used to start an authentication session” and “sending the first portion of transmission control protocol data from the server processor to the client processor during the connection establishment process” and “receiving the first portion of transmission control protocol data at the client processor” and “conducting authentication session communications,” in the invention as disclosed by Strom for the purposes of providing parallel processed TCP authentication.

Claim 52:

Strom, Mullen et al., and L. Blunk & J. Vollbrecht disclose an apparatus configured to initiating an authentication session in a connection establishment process of a transmission control protocol, as in Claim 51 above, but the combination of Strom and L. Blunk & J. Vollbrecht do not explicitly disclose,

- “standard transmission control protocol (TCP) requests are issued,” although Mullen et al. do suggest utilizing TCP, as recited below;

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however, Mullen et al. do disclose,

- “PPP is a widely used data link protocol for transmitting Transfer Control Protocol/Internet Protocol (TCP/IP) packets over dial-up telephone connections” [page 1 paragraph 0002];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant’s invention to include, “standard transmission control protocol (TCP) requests are issued,” in the invention as disclosed by Strom and L. Blunk & J. Vollbrecht since EAP is an authentication means for PPP and PPP is widely used with TCP/IP, thus it would be reasonable to expect one of ordinary skill in the art to put these aspects in use together.

Claim 53:

Strom, Mullen et al., and L. Blunk & J. Vollbrecht disclose an apparatus configured to initiating an authentication session in a connection establishment process of a transmission control protocol, as in Claim 51 above, but the combination of Strom and Mullen et al. do not explicitly disclose,

- “the first portion of a standard transmission control protocol request includes a segment used in a three-way handshake,” although L. Blunk & J. Vollbrecht do suggest request packets with an identifier value, as recited below;

however, L. Blunk & J. Vollbrecht do disclose,

- “Additional Request packets MUST be sent until a valid Response packet is received, or an optional retry counter expires. Retransmitted Requests MUST be sent with the same Identifier value in order to distinguish them from new Requests” [page 9];

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Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "the first portion of a standard transmission control protocol request includes a segment used in a three-way handshake," in the invention as disclosed by Strom and Mullen et al. for the purposes of distinguishing each request as new or existing.

Claim 54:

Strom, Mullen et al., and L. Blunk & J. Vollbrecht disclose an apparatus configured to initiating an authentication session in a connection establishment process of a transmission control protocol, as in Claim 51 above, but the combination of Strom and Mullen et al. do not explicitly disclose,

- "an authentication session request includes setting a value in a TCP segment header," although L. Blunk & J. Vollbrecht do suggest request setting a code field, as recited below;

however, L. Blunk & J. Vollbrecht do disclose,

- "The authenticator MUST transmit an EAP packet with the Code field set to 1 (Request)" [page 5];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "an authentication session request includes setting a value in a TCP segment header," in the invention as disclosed by Strom and Mullen et al. for the purposes of indicating a packet as a request.

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Claim 55:

Strom, Mullen et al., and L. Blunk & J. Vollbrecht disclose an apparatus configured to initiating an authentication session in a connection establishment process of a transmission control protocol, as in Claim 51 above, but the combination of Strom and Mullen et al. do not explicitly disclose,

- “a first value is set for a first type of communication session,” although L. Blunk & J. Vollbrecht do suggest a request packet, as recited below;
- “a second value is set for a second type of communication session,” although L. Blunk & J. Vollbrecht do suggest a response packet, as recited below;

however, L. Blunk & J. Vollbrecht do disclose,

- “The Request packet is sent by the authenticator to the peer” [page 5];
- “The peer MUST send a Response packet in reply to a Request packet” [page 6]

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant’s invention to include, “a first value is set for a first type of communication session” and “a second value is set for a second type of communication session,” in the invention as disclosed by Strom and Mullen et al. for the purposes of indicating a packet as a request or response.

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4. Claims 1, 4-9, 11, 12, 21-27, 32, 34-37, 46-49, & 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strom (US-20020042820-A1) in view of Parhami ("Introduction to Parallel Processing - Algorithms and Architectures") in view of Mullen et al. (US-20020147909-A1) in view of L. Blunk & J. Vollbrecht (RFC 2284).

Claim 1:

Strom discloses a method of providing authentication in a connection establishment process of a transmission control protocol comprising,

- "the transmission control protocol includes a Link Establishment phase and an Authentication phase" and
- "initiation of the Link Establishment phase is specified to occur apart from the Authentication phase" and
- "the method comprising the following acts occurring during the Link Establishment phase:"
  - o (i.e. "...According to the present invention, which is set out in Table 1 b, the request for server is sent before or parallel with the authentication procedure. The PPP, IP, PAP and CHAP protocols are modified such that the IP-address is sent back to the PC at the same time or before the terminal sends the authentication data in the form of password and user name, as shown in Table 1 below..." [page 2 para 16 & Table 1a];

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but, Strom does not explicitly disclose,

- “a first processor attempts to establish a communication over a network, the method executing in a second processor,” although Parhami does suggest commonly used parallel processing, as recited below;
- “receiving a request to establish a Transmission Control Protocol (TCP) connection from the first processor,” although Mullen et al. do suggest that PPP is used on TCP, as recited below;
- “creating an authentication session request in a standard response to the request to establish the TCP connection,” although L. Blunk & J. Vollbrecht do suggest a request packet, as recited below;
- “sending the standard response to the first processor during the connection establishment process,” although L. Blunk & J. Vollbrecht do suggest a response, as recited below;
- “the first processor enters an authentication session as a result of receiving the authentication session request,” although L. Blunk & J. Vollbrecht do suggest authentication success or failure, as recited below;

however, Parhami does disclose,

- “...parallel processing is concerned with architectural and algorithmic methods for enhancing the performance or other attributes (e.g. cost-effectiveness, reliability) of digital computers through various forms of concurrency...” [page 1];

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whereas, Mullen et al. do disclose,

- “PPP is a widely used data link protocol for transmitting Transfer Control Protocol/Internet Protocol (TCP/IP) packets over dial-up telephone connections” [page 1 paragraph 0002];

and whereas, L. Blunk & J. Vollbrecht do disclose,

- “...The Request packet is sent by the authenticator to the peer. Each Request has a type field which serves to indicate what is being requested...Responses MUST only be sent in reply to a received Request...” [page 5];
- “...Success and Failure...Success packet is sent by the authenticator to the peer to acknowledge successful authentication...Code field set to 3 (Success)...If the authenticator cannot authenticate the peer...Code field set to 4 (Failure)...” [page 6];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant’s invention to include, “a first processor attempts to establish a communication over a network, the method executing in a second processor” and “receiving a request to establish a Transmission Control Protocol (TCP) connection from the first processor” and “creating an authentication session request in a standard response to the request to establish the TCP connection” and “sending the standard response to the first processor during the connection establishment process” and “the first processor enters an authentication session as a result of receiving the authentication session request,” in the invention as disclosed by Strom for the purposes of providing parallel processed TCP authentication.



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Claim 4:

Strom, Parhami, Mullen et al., and L. Blunk & J. Vollbrecht disclose a method of providing authentication in a connection establishment process of a transmission control protocol, as in Claim 1 above, their combination further comprising,

- “the standard response includes a segment used in a three-way handshake” (i.e. “Additional Request packets MUST be sent until a valid Response packet is received, or an optional retry counter expires. Retransmitted Requests MUST be sent with the same Identifier value in order to distinguish them from new Requests”) [page 9].

Claim 5:

Strom, Parhami, Mullen et al., and L. Blunk & J. Vollbrecht disclose a method of providing authentication in a connection establishment process of a transmission control protocol, as in Claim 1 above, their combination further comprising,

- “the standard response includes a value in a TCP segment header” (i.e. “The authenticator MUST transmit an EAP packet with the Code field set to 1 (Request)”) [page 5].

Claim 6:

Strom, Parhami, Mullen et al., and L. Blunk & J. Vollbrecht disclose a method of providing authentication in a connection establishment process of a transmission control protocol, as in Claim 5 above, their combination further comprising,

- “a first value is set for data from the second processor to the first processor” (i.e. “The Request packet is sent by the authenticator to the peer”) [page 5];

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- “a second value is set for data from the first processor to the second processor” (i.e. “The peer MUST send a Response packet in reply to a Request packet”) [page 6].

Claim 7:

Strom, Parhami, Mullen et al., and L. Blunk & J. Vollbrecht disclose a method of providing authentication in a connection establishment process of a transmission control protocol, as in Claim 1 above, their combination further comprising,

- “the standard response includes a TCP option” (i.e. “Type - The Type field is one octet. This field indicates the Type of Request or Response”) [page 6].

Claim 8:

Strom, Parhami, Mullen et al., and L. Blunk & J. Vollbrecht disclose a method of providing authentication in a connection establishment process of a transmission control protocol, as in Claim 7 above, their combination further comprising,

- “the standard response includes an octet” (i.e. “The Type field is one octet”) [page 6].

Claim 9:

Strom, Parhami, Mullen et al., and L. Blunk & J. Vollbrecht disclose a method of providing authentication in a connection establishment process of a transmission control protocol, as in Claim 1 above, their combination further comprising,

- “the authentication session includes an Extensible Authentication Protocol (EAP) session” (i.e. “...EAP...”) [page 3].

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Claim 11:

Strom, Parhami, Mullen et al., and L. Blunk & J. Vollbrecht disclose a method of providing authentication in a connection establishment process of a transmission control protocol, as in Claim 1 above, their combination further comprising,

- “the first processor includes a client process” (i.e. “peer - The other end of the point-to-point link; the end which is being authenticated by the authenticator”) [page 3].

Claim 12:

Strom, Parhami, Mullen et al., and L. Blunk & J. Vollbrecht disclose a method of providing authentication in a connection establishment process of a transmission control protocol, as in Claim 1 above, their combination further comprising,

- “the second processor includes a server process” (i.e. “authenticator - The end of the link requiring the authentication. The authenticator specifies the authentication protocol to be used in the Configure-Request during Link Establishment phase”) [page 2].

Claims 21 & 22:

Strom, Parhami, and L. Blunk & J. Vollbrecht disclose an apparatus configured to providing authentication in a connection establishment process of a transmission control protocol, as in Claim 20 above, but their combination do not explicitly disclose,

- “the transmission control protocol includes standard TCP,” although Mullen et al., do suggest TCP, as recited below;
- “the first portion of transmission control protocol data includes a request to establish a standard TCP connection,” although Mullen et al., do suggest TCP, as recited below;

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however, Mullen et al., do disclose,

- “PPP is a widely used data link protocol for transmitting Transfer Control Protocol/Internet Protocol (TCP/IP) packets over dial-up telephone connections” [page 1 paragraph 0002];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant’s invention to include, “the transmission control protocol includes standard TCP” and “the first portion of transmission control protocol data includes a request to establish a standard TCP connection,” in the invention as disclosed by Strom, Parhami, and L. Blunk & J. Vollbrecht since EAP is an authentication means for PPP and PPP is widely used with TCP/IP, thus it would be reasonable to expect one of ordinary skill in the art to put these aspects in use together.

Claim 23:

Strom, Parhami, Mullen et al., and L. Blunk & J. Vollbrecht disclose an apparatus configured to providing authentication in a connection establishment process of a transmission control protocol, as in Claim 22 above, their combination further comprising,

- “the standard response includes a segment used in a three-way handshake” (i.e. “Additional Request packets MUST be sent until a valid Response packet is received, or an optional retry counter expires. Retransmitted Requests MUST be sent with the same Identifier value in order to distinguish them from new Requests”) [page 9].

Claim 24:

Strom, Parhami, Mullen et al., and L. Blunk & J. Vollbrecht disclose an apparatus configured to providing authentication in a connection establishment process of a transmission control protocol, as in Claim 21 above, their combination further comprising,

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- “the authentication session request includes a value in a TCP segment header” (i.e. “The authenticator MUST transmit an EAP packet with the Code field set to 1 (Request)”)  
[page 5].

Claim 25:

Strom, Parhami, Mullen et al., and L. Blunk & J. Vollbrecht disclose an apparatus configured to providing authentication in a connection establishment process of a transmission control protocol, as in Claim 24 above, their combination further comprising,

- “a first value is set for data from the second processor to the first processor” (i.e. “The Request packet is sent by the authenticator to the peer”) [page 5];
- “a second value is set for data from the first processor to the second processor” (i.e. “The peer MUST send a Response packet in reply to a Request packet”) [page 6].

Claim 26:

Strom, Parhami, Mullen et al., and L. Blunk & J. Vollbrecht disclose an apparatus configured to providing authentication in a connection establishment process of a transmission control protocol, as in Claim 21 above, their combination further comprising,

- “the authentication session item includes a TCP option” (i.e. “Type - The Type field is one octet. This field indicates the Type of Request or Response”) [page 6].

Claim 27:

Strom, Parhami, Mullen et al., and L. Blunk & J. Vollbrecht disclose an apparatus configured to providing authentication in a connection establishment process of a transmission control protocol, as in Claim 26 above, their combination further comprising,

- “the option includes an octet” (i.e. “The Type field is one octet”) [page 6].

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Claims 32 & 34:

Strom, Parhami, and L. Blunk & J. Vollbrecht disclose a method of initiating an authentication session in a connection establishment process of a transmission control protocol, as in Claim 31 above, but their combination do not explicitly disclose,

- “the step of sending a request includes a substep of sending a standard transmission control protocol (TCP) request,” although Mullen et al., do suggest TCP, as recited below;
- “a first portion of transmission control protocol data includes a request to establish a standard TCP connection,” although Mullen et al., do suggest TCP, as recited below;

however, Mullen et al., do disclose,

- “PPP is a widely used data link protocol for transmitting Transfer Control Protocol/Internet Protocol (TCP/IP) packets over dial-up telephone connections” [page 1 paragraph 0002];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant’s invention to include, “the step of sending a request includes a substep of sending a standard transmission control protocol (TCP) request” and “a first portion of transmission control protocol data includes a request to establish a standard TCP connection,” in the invention as disclosed by Strom, Parhami, and L. Blunk & J. Vollbrecht since EAP is an authentication means for PPP and PPP is widely used with TCP/IP, thus it would be reasonable to expect one of ordinary skill in the art to put these aspects in use together.

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Claim 35:

Strom, Parhami, Mullen et al., and L. Blunk & J. Vollbrecht disclose a method of initiating an authentication session in a connection establishment process of a transmission control protocol, as in Claim 31 above, their combination further comprising,

- “the first portion of transmission protocol data includes a segment used in a three-way handshake” (i.e. “Additional Request packets MUST be sent until a valid Response packet is received, or an optional retry counter expires. Retransmitted Requests MUST be sent with the same Identifier value in order to distinguish them from new Requests”)  
[page 9].

Claim 36:

Strom, Parhami, Mullen et al., and L. Blunk & J. Vollbrecht disclose a method of initiating an authentication session in a connection establishment process of a transmission control protocol, as in Claim 34 above, their combination further comprising,

- “the authentication session request includes setting a value in a TCP segment header”  
(i.e. “The authenticator MUST transmit an EAP packet with the Code field set to 1 (Request)”) [page 5].

Claim 37:

Strom, Parhami, Mullen et al., and L. Blunk & J. Vollbrecht disclose a method of initiating an authentication session in a connection establishment process of a transmission control protocol, as in Claim 34 above, their combination further comprising,

- “a first value is set for data from the second processor to the first processor” (i.e. “The Request packet is sent by the authenticator to the peer”) [page 5];

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- “a second value is set for data from the first processor to the second processor” (i.e. “The peer MUST send a Response packet in reply to a Request packet”) [page 6].

Claims 46 & 47:

Strom, Parhami, and L. Blunk & J. Vollbrecht disclose a method of initiating an authentication session in a connection establishment process of a transmission control protocol, as in Claim 45 above, but their combination do not explicitly disclose,

- “sending a standard transmission control protocol (TCP) request,” although Mullen et al., do suggest TCP, as recited below;
- “the first portion of transmission control protocol data includes a request to establish a standard TCP connection,” although Mullen et al., do suggest TCP, as recited below;

however, Mullen et al., do disclose,

- “PPP is a widely used data link protocol for transmitting Transfer Control Protocol/Internet Protocol (TCP/IP) packets over dial-up telephone connections” [page 1 paragraph 0002];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant’s invention to include, “sending a standard transmission control protocol (TCP) request” and “the first portion of transmission control protocol data includes a request to establish a standard TCP connection,” in the invention as disclosed by Strom, Parhami, and L. Blunk & J. Vollbrecht since EAP is an authentication means for PPP and PPP is widely used with TCP/IP, thus it would be reasonable to expect one of ordinary skill in the art to put these aspects in use together.



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Claim 48:

Strom, Parhami, Mullen et al., and L. Blunk & J. Vollbrecht disclose a method of initiating an authentication session in a connection establishment process of a transmission control protocol, as in Claim 47 above, their combination further comprising,

- “the first portion of transmission protocol data includes a segment used in a three-way handshake” (i.e. “Additional Request packets MUST be sent until a valid Response packet is received, or an optional retry counter expires. Retransmitted Requests MUST be sent with the same Identifier value in order to distinguish them from new Requests”)  
[page 9].

Claim 49:

Strom, Parhami, Mullen et al., and L. Blunk & J. Vollbrecht disclose a method of initiating an authentication session in a connection establishment process of a transmission control protocol, as in Claim 47 above, their combination further comprising,

- “the authentication session request includes setting a value in a TCP segment header”  
(i.e. “The authenticator MUST transmit an EAP packet with the Code field set to 1 (Request)”) [page 5].

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5. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Strom (US-20020042820-A1) in view of Parhami ("Introduction to Parallel Processing - Algorithms and Architectures") in view of Mullen et al. (US-20020147909-A1) in view of L. Blunk & J. Vollbrecht (RFC 2284) in view of W. Simpson (RFC 1994).

Claim 10:

Strom, Parhami, Mullen et al., and L. Blunk & J. Vollbrecht disclose a method of providing authentication in a connection establishment process of a transmission control protocol, as in Claim 1 above, but their combination do not explicitly disclose,

- "receiving a response from the first processor in response to sending the standard response," although W. Simpson does suggest peer response, as recited below;
- "determining whether the response from the first processor indicates that the first processor will comply with the authentication session," although W. Simpson does suggest authentication via hash check, as recited below;
- "if the first processor will not comply with the authentication session then performing a substep of restricting access of the first processor," although W. Simpson does suggest terminating the connection, as recited below;

however, W. Simpson does disclose,

- "The peer responds with a value calculated using a "one-way hash" function" [page 3];
- "The authenticator checks the response against its own calculation of the expected hash value. If the values match, the authentication is acknowledged" [page 3];
- "otherwise the connection SHOULD be terminated" [page 3];

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Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "receiving a response from the first processor in response to sending the standard response" and "determining whether the response from the first processor indicates that the first processor will comply with the authentication session" and "if the first processor will not comply with the authentication session then performing a substep of restricting access of the first processor," in the invention as disclosed by Strom, Parhami, Mullen et al., and L. Blunk & J. Vollbrecht for the purposes of having a challenge hand-shake authentication to verify a peer.

6. Claims 13-19 & 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over L. Blunk & J. Vollbrecht (RFC 2284) in view of Mullen et al. (US-2002/0147909-A1).

Claim 13:

L. Blunk & J. Vollbrecht disclose a method of initiating an authentication session between first and second processes comprising,

- "including an authentication session request within a standard response to a TCP session request to establish a TCP connection" (i.e. "The Request packet is sent by the authenticator to the peer. Each Request has a type field which serves to indicate what is being requested") [page 5];
- "wherein the authentication session request is used to start an authentication session" (i.e. "Success and Failure...Success packet is sent by the authenticator to the peer to acknowledge successful authentication...Code field set to 3 (Success)...If the authenticator cannot authenticate the peer...Code field set to 4 (Failure)") [page 5];

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- “sending the standard response including the authentication session request during connection establishment” (i.e. “Responses MUST only be sent in reply to a received Request”) [page 5];

but, they do not explicitly disclose,

- “TCP,” although Mullen et al. do suggest that PPP is used on TCP, as recited below;

however, Mullen et al. do disclose,

- “PPP is a widely used data link protocol for transmitting Transfer Control Protocol/Internet Protocol (TCP/IP) packets over dial-up telephone connections” [page 1 paragraph 0002];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the

applicant’s invention to include, “TCP,” in the invention as disclosed by L. Blunk & J.

Vollbrecht since it is reasonable to expect that if PPP is used on TCP, then any newer derivation

of PPP such as PPP with EAP would also utilize TCP for the purposes of providing

authentication in TCP.

Claim 14:

L. Blunk & J. Vollbrecht disclose a method of initiating an authentication session between first

and second processes, as in Claim 13 above, further comprising,

- “the step of including includes a substep of including an authentication session request in a transfer of data indicating a TCP session handshake” (i.e. “Additional Request packets MUST be sent until a valid Response packet is received, or an optional retry counter expires. Retransmitted Requests MUST be sent with the same Identifier value in order to distinguish them from new Requests”) [page 5].

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Claim 15:

L. Blunk & J. Vollbrecht disclose a method of initiating an authentication session between first and second processes, as in Claim 14 above, further comprising,

- “the authentication session request includes a value in a TCP segment header” (i.e. “The authenticator MUST transmit an EAP packet with the Code field set to 1 (Request)”)  
[page 5].

Claim 16:

L. Blunk & J. Vollbrecht disclose a method of initiating an authentication session between first and second processes, as in Claim 15 above, further comprising,

- “a first value is set for data from the second process to the first process” (i.e. “The Request packet is sent by the authenticator to the peer”) [page 5];
- “a second value is set for data from the first process to the second process” (i.e. “The peer MUST send a Response packet in reply to a Request packet”) [page 6].

Claim 17:

L. Blunk & J. Vollbrecht disclose a method of initiating an authentication session between first and second processes, as in Claim 14 above, further comprising,

- “the authentication session request includes a TCP option” (i.e. “Type - The Type field is one octet. This field indicates the Type of Request or Response”) [page 6].

Claim 18:

L. Blunk & J. Vollbrecht disclose a method of initiating an authentication session between first and second processes, as in Claim 17 above, further comprising,

- “the TCP option includes an octet” (i.e. “The Type field is one octet”) [page 6].

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Claim 19:

L. Blunk & J. Vollbrecht disclose a method of initiating an authentication session between first and second processes, as in Claim 13 above, further comprising,

- “an authentication session entered as a result of using the authentication session request includes an Extensible Authentication Protocol (EAP) session” (i.e. “The PPP Extensible Authentication Protocol (EAP) is a general protocol for PPP authentication which supports multiple authentication mechanisms”) [page 3].

Claim 29:

L. Blunk & J. Vollbrecht disclose a computer-readable storage medium including instructions configured to providing authentication in a connection establishment process of a transmission control protocol, wherein a first processor attempts to establish a communication over a network comprising,

- “one or more instructions configured to creating an authentication session request in a standard response to the request to establish the TCP connection first portion of transmission control protocol data” (i.e. “The Request packet is sent by the authenticator to the peer. Each Request has a type field which serves to indicate what is being requested”) [page 5];
- “the authentication session item is used to start an authentication session” (i.e. “The authenticator MUST transmit an EAP packet with the Code field set to 1 (Request)”) [page 5];

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- “one or more instructions configured to sending the response to the first processor during the connection establishment process” (i.e. “The Request packet is sent by the authenticator to the peer”) [page 5];
- “the first processor enters an authentication session as a result of receiving the authentication session request” (i.e. “Success and Failure...Success packet is sent by the authenticator to the peer to acknowledge successful authentication...Code field set to 3 (Success)...If the authenticator cannot authenticate the peer...Code field set to 4 (Failure)”) [page 5];

but, they do not explicitly disclose,

- “TCP,” although Mullen et al. do suggest that PPP is used on TCP, as recited below;

however, Mullen et al. do disclose,

- “PPP is a widely used data link protocol for transmitting Transfer Control Protocol/Internet Protocol (TCP/IP) packets over dial-up telephone connections” [page 1 paragraph 0002];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant’s invention to include, “TCP,” in the invention as disclosed by L. Blunk & J.

Vollbrecht since it is reasonable to expect that if PPP is used on TCP, then any newer derivation of PPP such as PPP with EAP would also utilize TCP for the purposes of providing authentication in TCP.

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***Response to Arguments***

7. Applicant's arguments with respect to Claims 1, 4-29, 31-43, & 45-56 have been considered but are moot in view of the new ground(s) of rejection as necessitated by the applicant's amendments.

***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Oscar Louie whose telephone number is 571-270-1684. The examiner can normally be reached Monday through Thursday from 7:30 AM to 4:00 PM.



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nasser Moazzami, can be reached at 571-272-4195. The fax phone number for Formal or Official faxes to Technology Center 2400 is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/OSCAR A LOUIE/

12/02/2009

/Eleni A Shiferaw/

Primary Examiner, Art Unit 2436